Black Hills National Forest

Hell Canyon Ranger District Fire and Fuels Management

PRESCRIBED FIRE INFORMATION GUIDE

PRESCRIBED FIRE:
IMPROVING THE HEALTH OF OUR FORESTED ECOSYSTEM

Fires burns in forests and rangeland, playing a vital ecological role in keeping land healthy. Fire reduces dead vegetation, replenishes nutrients in the soil, stimulates new growth, and maintains biological diversity. Over time a mix of forest management practices, fire suppression, and recently – drought, has led to overcrowding of vegetation and plants and shrubs that may not be ecologically adapted to live with fire. As a result, our forests are now conducive to large, severe wild land fires. Prescribed burns allow fire managers to reintroduce fire under a more controlled environment, usually in the spring or fall, to lower fire intensities and produce fire effects that are more desirable to land managers and the public. Once completed, the prescribed burn area will also serve to lessen fire intensities from naturally ignited fires such as lightning and provides fire managers more options when suppressing future fires.

In the Black Hills, public land managers have been reducing accumulations of hazardous fuels that lead to large, severe wild land fires through the use of mechanical treatment and prescribed fire. Reducing hazardous fuels through prescribed fire and other tools is a key component of the National Fire Plan. This plan is interagency strategy, developed by the Department of Agriculture and Department of Interior, to respond to severe wild land fires, reduce fire's impacts on rural communities, and to assure sufficient firefighting capacity in the future. The National Fire Plan, as well as other legislation such as the Healthy Forest Restoration Act, provides direction for land managers to reduce fuel concentrations and threats of uncharacteristic wildfires in the Wildland Urban Interface.

The last six years, substantial progress has been made implementing prescribed fire projects and mechanical fuels reduction treatments within the urban interface mix. Mechanical fuels reduction involves removal or shredding of dense stands of trees. The Forest Service will utilize private contractors with machines that use special attachments that fragment the trees and reduce slash accumulations that can lead to more intense fires. Mechanically thinning trees will remove laddering fuels that reach into the canopies of the older trees. Removing ladder

fuels will decrease torching of trees and ultimately crown fires. Mechanical fuels treatments are conducted near private property where prescribed fire may be too risky.

Prescribed fires have proven to be very successful in creating the conditions necessary for healthy forests, but there is troublesome side of smoke. To minimize the impacts of smoke, land managers work closely with the South Dakota and Wyoming Department of Environmental Quality, the National Weather Service, and adjoining ranger districts when implementing prescribed fires.

Before every prescribed fire, burn personnel call the National Weather Service with on-site weather conditions and request a spot weather forecast. This forecast allows fire managers to determine whether they will burn or not based on site specific weather forecasts.

This forecast includes temperatures, relative humidity, winds, and smoke dispersal. Typically, the Forest Service will only burn when the smoke dispersal rating is fair or better or lesser amounts will be ignited when conditions are less than fair. A rating of fair or better allows smoke to rise higher in the atmosphere and allows upper air winds to disperse smoke. Yet even in favorable conditions, the air will still become smoky. Although the air is smoky, it still meets federal and state air quality standards.

Smoke will also be seen this winter when the snow flies. Currently, the Black Hills National Forest has several hundred acres of hand and machine piles that will also be burned. Thinning and hand piling is chosen when forest aesthetics is important because fire crews can selectively leave the largest, healthiest trees and pile the downed and dead woody material.

Area after selective thinning, piling, and burn
Ladder fuels can make broadcast burning risky

Same area on right after selective thinning and piling

When a natural ignition does occur, this treatment effectively removes ladder fuel, which reduces the chance of trees torching and initiating crown fire. Removing woody debris on the forest floor helps firefighters because it slows fire's rate of spread and reduces the flame length so initial attack forces have increased suppression options (i.e. engines, hand line, dozer line) too safely and effectively manage the incident. Hand piles are typically created near structures where prescribed broadcast burning is too risky.

South Zone Fire Management consists of one ranger district in the southern part of the Black Hills National Forest. The district encompasses the Black Elk Wilderness, and extends west to the Wyoming/South Dakota state line. The district includes Elk and Pilger Mountains in the west portion, borders Custer State Park and Wind Cave National Park on the east, and extends south to Angostura Reservoir.

This fall, starting in mid-September, all zones have burns that are planned with implementation dependent on fuels and weather conditions. The Hell Canyon Ranger District has two prescribed burns, which include Mahoney and Section 2 that are the priorities this year. These two areas have been identified and cleared for treatment utilizing direction from the National Fire Plan and focus on treated forest land around the wildland urban interface. The district also has planned ignitions of thousands of brush piles created from various timber and fuels projects. These piles are located across the entire district and will be ignited when winter sets in with snow cover that is predicted to last.

HELL CANYON RANGER DISTRICT
PRESCRIBED FIRE PROJECTS
FISCAL YEAR 2015

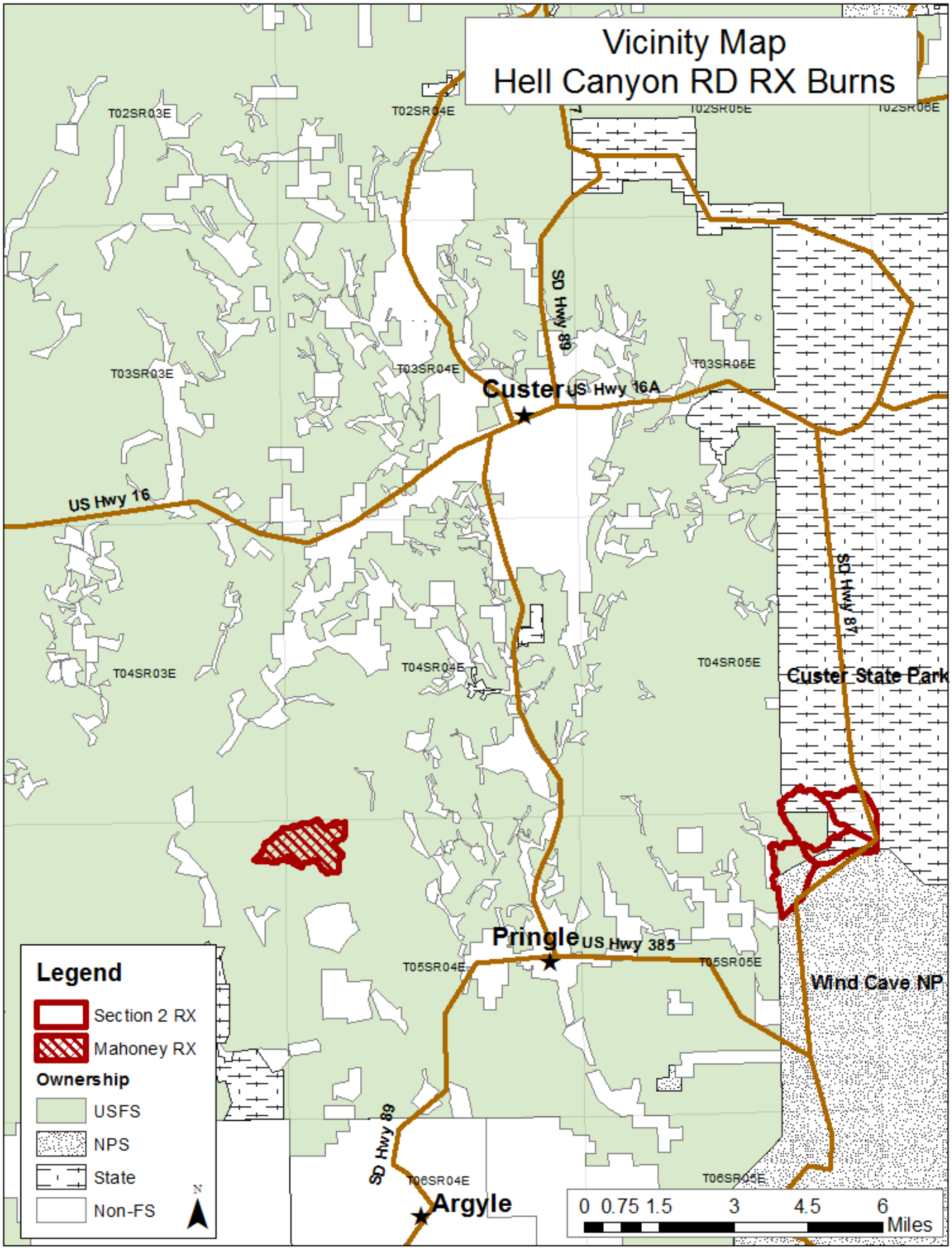
PROJECT NAME	PLANNED ACRES	TARGET DATE
Section 2	1934	October-April
Mahoney	738	September-April

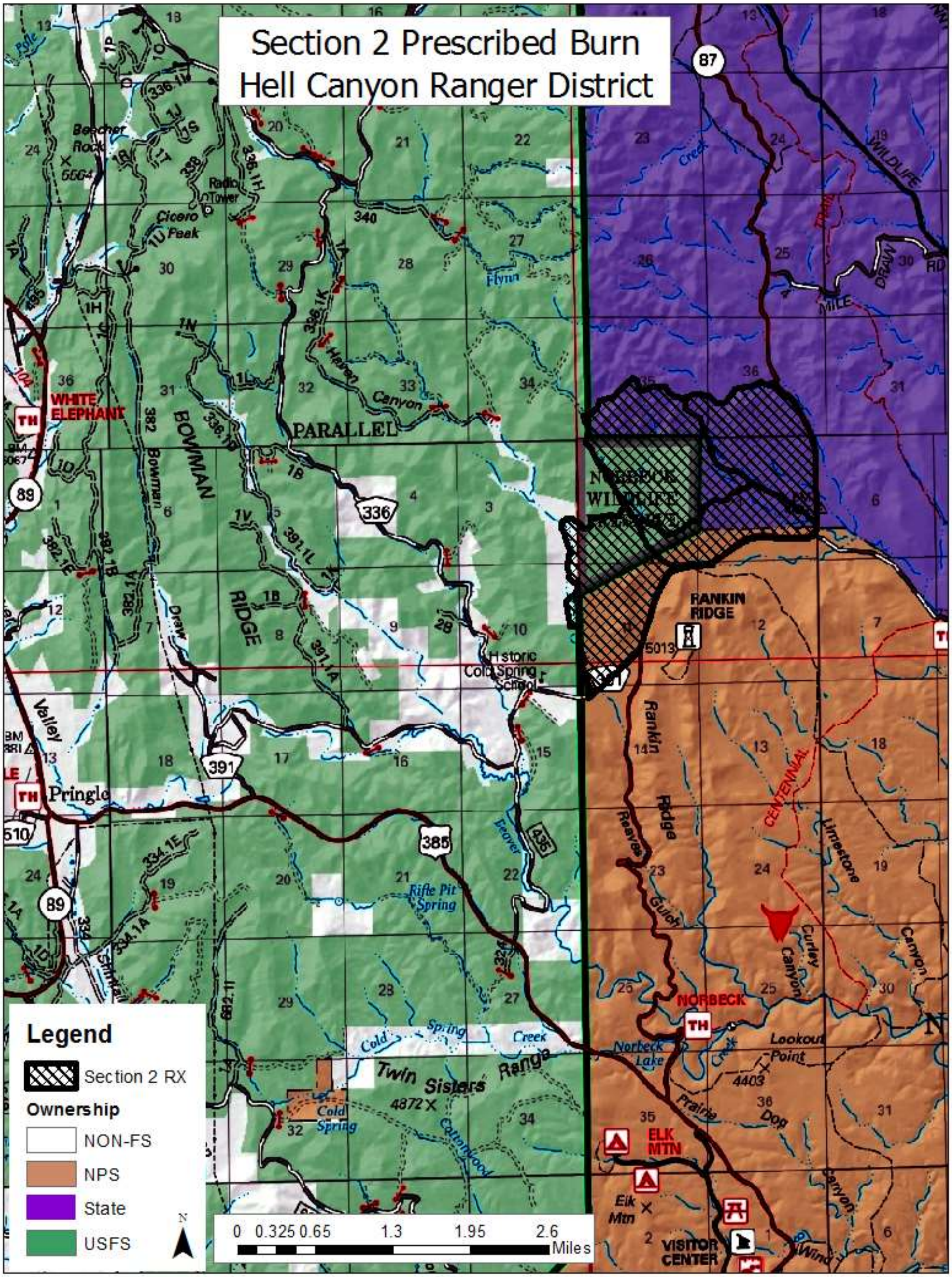
Section 2 Prescribed Fire

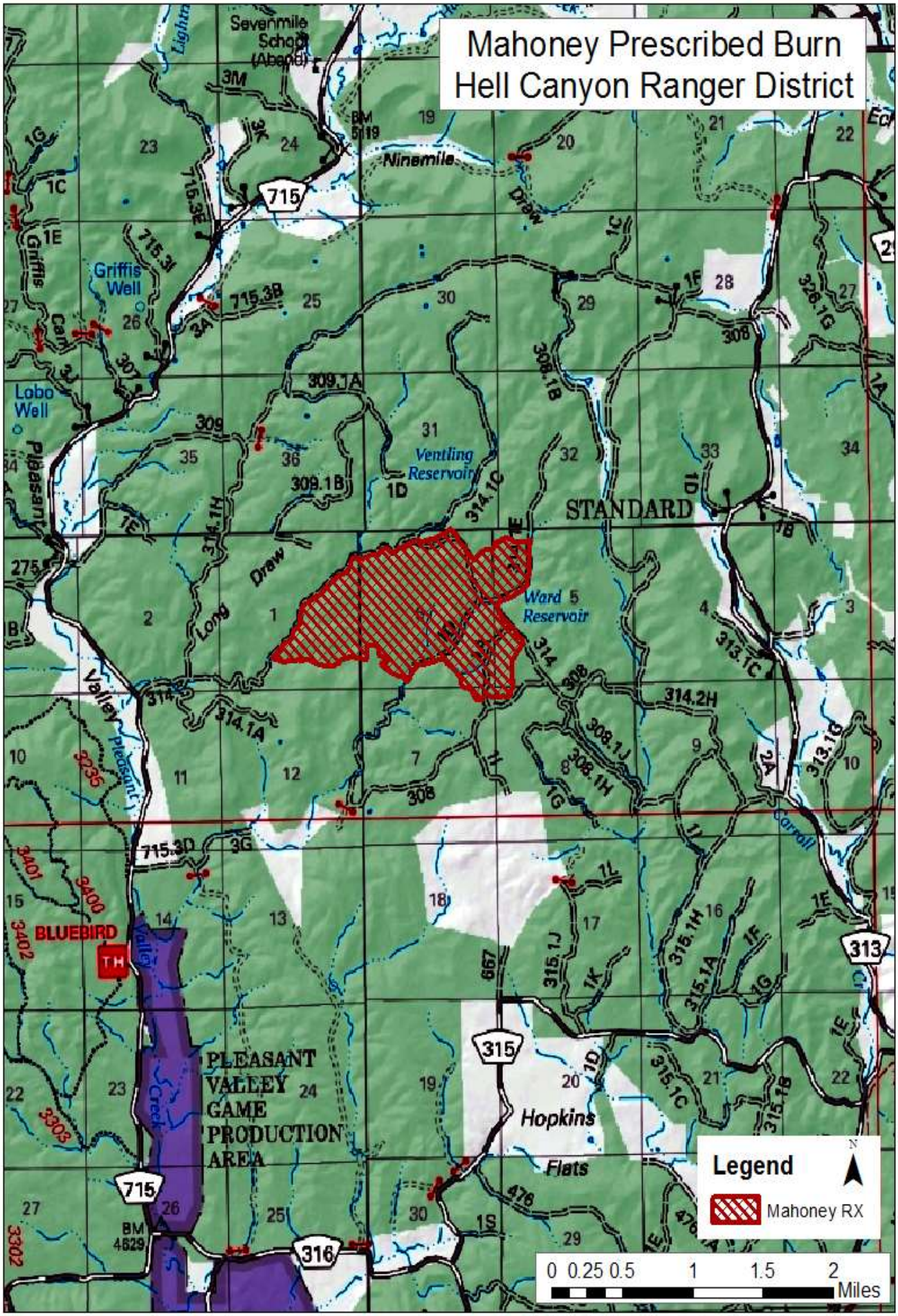
- Information Contact: Matt Spring 605/673-9374
- Target Date for Burn: Fall, Winter, or Spring
- Location and Legal Description: Prescribed fire will be ignited approximately 5 miles northwest of Pringle, SD (T4S, R6E, Sections 35, and 36-T5S, R6E, Sections 1, 2, 11, and T5S, R5E , Sections 3 and 10).
- Project Size: 1934 Acres
- Description: the objective of this project is primarily fuels reduction. This project involves Cooperation with Local Landowners, Custer State Park, and Wind Cave National Park.

Mahoney Prescribed Fire

- Information Contact: Matt Spring 605/673-9374
- Target Date for Burn: Fall, Winter, or Spring
- Location and Legal Description: Prescribed fire will be ignited approximately 5 miles northwest of Pringle, SD (T4S, R4E, Sections 31, 32- T5S, R4E Sections 5 and 6).
- Project Size: 689 Acres
- Description: The objective of this burn is to reduce natural and activity created fuels near wildland urban interface. The treatments in these units will maintain a forest structure that continues to inhibit the spread of wildland fire to the crowns of trees. Surface fire provides managers different options when a fire starts in a given area. The burn will also recycle necessary nutrients to the soil that will provide additional browse and forbs for wildlife species.


Vicinity Map
Hell Canyon RD RX Burns
T02SR03E
T02SR04E
T02SR05E
T02SR06E
T03SR03E
T03SR04E
T03SR06E
Custer
US Hwy 16A
SD Hwy 89
US Hwy 16
SD Hwy 87
T04SR03E
T04SR04E
T04SR05E
Custer State Park
Pringle
US Hwy 385
T05SR04E
T05SR05E
Wind Cave NP
SD Hwy 89
T06SR04E
T06SR05E
Argyle
Legend
Section 2 RX
Mahoney RX
Ownership
USFS
NPS
State
Non-FS
N
0 0.75 1.5 3 4.5 6
Miles


Section 2 Prescribed Burn
Hell Canyon Ranger District
Legend
Section 2 RX
Ownership
NON-FS
NPS
State
USFS
0 0.325 0.65 1.3 1.95 2.6
Miles
N
PARALLEL
BOWMAN RIDGE
RANKIN RIDGE
Pringle
WHITE ELEPHANT
NORBECK
ELK MTN
VISITOR CENTER
Twin Sisters Range
Rankin Ridge
Reaves Gulch
CENTENNIAL
Limestone
Curley Canyon
Lookout Point
Norbeck Lake
Cold Spring Creek
Rifle Pit Spring
Historic Cold Spring School
Beecher Rock
Cicero Peak
Radio Tower
Valley


Mahoney Prescribed Burn
Hell Canyon Ranger District
Severnmile School (Abeyed)
Ninemile
Griffis Well
Lobo Well
Ventling Reservoir
STANDARD
Ward 5 Reservoir
Long Draw
Valley Pleasant
BLUEBIRD
TH
PLEASANT VALLEY GAME PRODUCTION AREA
Hopkins Flats
715
315
316
313
Legend
Mahoney RX
N
0 0.25 0.5 1 1.5 2
Miles